

WHAT IS CLAIMED IS:

1           1.     A computing device module for receipt within a computing device  
2 chassis, the module comprising:  
3                 an enclosure;  
4                 a handle movably coupled to the enclosure to move between an  
5 extended position and a retracted position, wherein the handle includes at least  
6 one opening configured to permit at least one standard hand digit to extend  
7 through the at least one opening when the handle is in the retracted position.

1           2.     The module of Claim 1, wherein the at least one opening is  
2 continuously bounded.  
3

1           3.     The module of Claim 1, wherein the at least one opening is  
2 configured to permit a standard thumb and a standard forefinger to be pinched  
3 together through the at least one opening when the handle is in the retracted  
4 position.

5           4.     The module of Claim 1, wherein the at least one opening is  
6 configured to permit a medial segment of at least one standard finger to extend  
7 through the at least one opening when the handle is in the retracted position.

8           5.     The module of Claim 1, wherein the at least one opening includes  
9 an arcuate surface configured to engage the at least one digit when the digit  
10 extends through the at least one opening.

1           6.     The module of Claim 5, wherein the at least one opening is circular.

1           7.     The module of Claim 1, wherein the chassis includes one of a  
2 detent and a detent-engaging structure and wherein the handle includes the  
3 other of the detent and the detent-engaging structure, wherein the detent-  
4 engaging structure engages the detent to retain the module within the chassis  
5 when the handle is in the retracted position and wherein the detent-engaging

6 structure is withdrawn from the detent to permit withdrawal of the module from  
7 the chassis when the handle is in the extended position.

1 8. The module of Claim 7, wherein the handle pivots between the  
2 extended position and the retracted position.

1 9. The module of Claim 8 including a retainer releasably retaining the  
2 handle in the retracted position.

1 10. The module of Claim 9, wherein the retainer includes:  
2 a first threaded portion coupled to the enclosure; and  
3 a second threaded portion coupled to the handle and screwed to  
4 the first threaded portion.

1 11. The module of Claim 10, wherein the retainer includes a thumb  
2 screw coupled to the handle and providing the second threaded portion.

1 12. The module of Claim 1, wherein the handle pivots between the  
2 extended position and the retracted position.

1 13. The module of Claim 12 including a retainer releasably retaining the  
2 handle in the retracted position.

1 14. The module of Claim 13, wherein the retainer includes:  
2 a first threaded portion coupled to the enclosure; and  
3 a second threaded portion coupled to the handle and screwed to  
4 the first threaded portion.

1 15. The module of Claim 14, wherein the retainer includes a thumb  
2 screw coupled to the handle and providing the second threaded portion, wherein  
3 the thumb screw is configured to serve as a lifting surface for supporting a  
4 weight of the module upon removal of the module from the chassis.

1           16.    The module of Claim 1, wherein the enclosure has a side wall  
2    extending in a first plane and wherein at least a majority of the handle extends  
3    in a second plane parallel to the first plane.

1           17.    The module of Claim 1, wherein the handle has an arm portion and  
2    a grasping portion providing the at least one opening, wherein the lever arm  
3    portion is substantially received within a recess when the handle is in the  
4    retracted position.

1           18.    The module of Claim 17, wherein the arm portion has a maximum  
2    thickness of about 3.0 mm.

1           19.    The module of Claim 18, wherein the arm portion has a maximum  
2    thickness of 2.2 mm.

1           20.    The module of Claim 18, wherein the arm portion is formed from  
2    sheet metal.

1           21.    The module of Claim 20, wherein the sheet metal is galvanized.

1           22.    The module of Claim 20, wherein the sheet metal has a thickness  
2    of about 1.5 mm.

1           23.    The module of Claim 1, wherein the handle is formed from a  
2    material having a yield strength of at least about 16,000 psi.

1           24.    The module of Claim 1 including at least one light-emitting display  
2    extending along a face of the module, wherein the handle has an arm portion  
3    and a grasping portion forming the opening and wherein the grasping portion  
4    extends in a plane perpendicular to the face.

1           25.    The module of Claim 1, wherein the handle extends along only a  
2    single transverse side of the enclosure.

1           26.    The module of Claim 1, wherein the opening has at least one  
2   dimension at least 18 mm.

1           27.    The module of Claim 1, wherein the module comprises a power  
2   supply for the computing device and wherein the module includes power supply  
3   components within the enclosure.

1           28.    The module of Claim 1, wherein the enclosure includes at least one  
2   air flow opening extending along a first plane and wherein the handle extends  
3   substantially within a second plane perpendicular to the first plane.

1           29.    The module of Claim 1, wherein the computing device includes a  
2   first connector portion and wherein the module includes a second connector  
3   portion configured to transmit signals between the module and the computing  
4   device, wherein the chassis includes one of a detent and a detent-engaging  
5   structure and wherein the handle includes the other of the detent and the  
6   detent-engaging structure, wherein the handle pivots between the extended  
7   position and the retracted position and wherein during pivoting of the handle  
8   from the extended position towards the retracted position, the detent and  
9   detent-engaging structure are in engagement so as to urge the module into the  
10   chassis and so as to urge the second connector portion into complete  
11   connection with the first connector portion.

1           30.    A computing device comprising:  
2                   a chassis; and  
3                   a module removably received within the chassis, the module  
4   including:  
5                               an electronic component selected from the group including:  
6                               a power supply, a central processor, a removable  
7   memory storage device, a permanent memory storage device, and an  
8   input/output device; and

9 a handle movably coupled to the enclosure to move between  
10 an extended position and a retracted position, wherein the handle includes at  
11 least one opening configured to permit at least one standard hand digit to  
12 extend through the at least one opening when the handle is in the retracted  
13 position.

1 31. The computing device of Claim 30, wherein the handle pivots  
2 between the extended position and the retracted position.

1 32. A housing system for containing at least one electronic component  
2 of a computing device module, the housing system comprising:  
3 a support structure configured to support the at least one electronic  
4 component of the module; and  
5 a handle movably coupled to the support structure to move  
6 between an extended position and a retracted position, wherein the handle  
7 includes at least one opening configured to permit at least one standard adult  
8 hand digit to extend through the opening when the handle is in the retracted  
9 position.

1 33. The housing system of Claim 32, wherein the handle pivots  
2 between the extended position and the retracted position.

1 34. A computing device module for receipt within a computing device  
2 chassis, the module comprising:  
3 an enclosure, the enclosure forming a recess; and  
4 a handle including:  
5 an arm portion pivotally coupled to the enclosure so as to  
6 pivot between a retracted position in which the arm portion is received within  
7 the recess and an extended position, wherein the arm portion extends in a first  
8 plane; and  
9 a grasping portion extending from the arm portion in a  
10 second plane coextensive with or parallel to the first plane, wherein the grasping  
11 portion projects beyond the recess when the handle is in the retracted position.

1           35. The module of Claim 34, wherein the grasping portion includes at  
2 least one opening configured to permit a medial segment of at least one  
3 standard hand digit to extend through the opening when the handle is in the  
4 retracted position.

1           36. The module of Claim 32, wherein the grasping portion extends from  
2 the recess by a distance of at least 7 mm when the handle is in the retracted  
3 position.

1           37. The module of Claim 34, wherein the chassis includes one of a  
2 detent and a detent-engaging structure and wherein the lever arm portion  
3 includes the other of the detent and the detent-engaging structure and wherein  
4 the detent-engaging structure engages the detent to retain the module within  
5 the chassis when the handle is in the retracted position and wherein the detent-  
6 engaging structure is withdrawn from the detent to permit withdrawal of the  
7 module from the chassis when the handle is in the extended position.

1           38. The module of Claim 34, wherein the recess has a maximum width  
2 of 4 mm.

1           39. The module of Claim 34, wherein the arm portion has a maximum  
2 width of 3 mm.

1           40. The module of Claim 34, wherein the arm portion is formed from  
2 sheet metal.

1           41. A module for receipt within a chassis of a computing device, the  
2 module comprising:  
3                   at least one electronic component;  
4                   first means for supporting the at least one electronic component;  
5 and  
6                   second means coupled to the first means for being manually moved  
7 between a first position in which the second means retains the module within

8 the chassis when the module is inserted into the chassis and a second position  
9 permitting withdrawal of the module from the chassis, wherein the second  
10 means also provides at least one grasping surface for enabling the module to be  
11 manually carried by the grasping surface when the second means is in the first  
12 position.

1 42. A module for receipt within a chassis of a computing device, the  
2 module comprising:  
3 an enclosure; and  
4 a handle movably coupled to the enclosure to move between an  
5 extended position and a retracted position, wherein the chassis includes one of  
6 a detent and a detent-engaging structure and wherein the handle includes the  
7 other of the detent and detent-engaging structure, wherein the detent-engaging  
8 structure engages the detent to retain the module within the chassis when the  
9 handle is in the retracted position, wherein the detent-engaging structure is  
10 withdrawn from the detent to permit withdrawal of the module from the chassis  
11 when the handle is in the extended position, wherein the handle has a lever arm  
12 portion and a grasping portion, wherein the lever arm portion and the grasping  
13 portion extend along only a single transverse side of the enclosure.

1 43. The module of Claim 42, wherein the lever arm portion is  
2 substantially received within a recess when the handle is in the retracted  
3 position.

1 44. The module of Claim 42, wherein the handle pivots between the  
2 extended position and the retracted position.

1 45. The module of Claim 42, wherein the grasping portion includes at  
2 least one opening configured to permit a medial segment of at least one average  
3 United States male adult finger to extend through the opening when the handle  
4 is in the retracted position.

1           46.    The module of Claim 42, wherein the lever arm portion has a  
2   maximum thickness of about 3.0 millimeters and is formed from a material  
3   having a yield strength of at least about 16,000 psi.

1           47.    The module of Claim 42 including a retainer releasably retaining the  
2   handle in the retracted position.

1           48.    The module of Claim 42 including at least one light-emitting display  
2   extending along a face of the module, wherein the grasping portion extends in a  
3   plane perpendicular to the face.

1           49.    A method for positioning a module relative to a chassis of a  
2   computing device, the method comprising:  
3                inserting the module into the chassis;  
4                pivoting a handle coupled to the module from a releasing position to  
5   a retaining position in which a portion of the handle engages the chassis to  
6   retain the module within the chassis; and  
7                screwing the handle to at least one of the chassis and an enclosure  
8   of the module to retain the handle in the retracted position.

1           50.    The method of Claim 49, wherein the handle is screwed to at least  
2   one of the chassis and the enclosure without tools.

3           51.    The method of Claim 49 including:  
4                removing the module from the chassis;  
5                pivoting the handle to the retracted position;  
6                screwing the handle to at least one of the chassis and the  
7   enclosure of the module to retain the handle in the retracted position; and  
8                carrying the module by grasping the handle.

1           52.    The method of Claim 51, wherein the step of grasping the handle  
2   includes inserting at least one hand digit through at least one opening formed in  
3   the handle.